

REMARKS

A check for the fee for a three month extension of time accompanies this response. Any fees that may be due in connection with the filing of this paper or with this application during its pendency may be charged to Deposit Account No. 06-1050. If a Petition for Extension of time is needed, this paper is to be considered such Petition.

The Examiner is thanked for her courtesy in granting an interview on September 12, 2006, and for follow-up e-mail discussions on September 14, 2006, pursuant to the same. The amendments and remarks provided herein are in accord with the Examiner's suggestions pursuant to the interview and e-mail discussions and address the issues raised in the Final Office Action and the Advisory Action.

Claims 9-14 and 58-73 are pending in this application. Claim 8 is cancelled herein. Claim 58 is amended herein to clarify the subject matter as discussed with the Examiner during the interview of September 12, 2006, and to correct a minor grammatical error. Claims 9-14, 65-69 and 73 are amended herein to depend from Claim 58 by virtue of cancellation of Claim 8. Claims 68 and 69 also are amended herein to remove the redundant recitation of the term "high-throughput" because independent Claim 58, from which they depend, already specifies that the method is high-throughput. Therefore, it respectfully is submitted that all grounds of rejection are obviated and the application should be in condition for allowance.

The Amendment after Final filed April 20, 2006, is incorporated in its entirety by reference herein.

INTERVIEW OF SEPTEMBER 12, 2006, WITH THE EXAMINER AND FOLLOW-UP E-MAIL DISCUSSION ON SEPTEMBER 14, 2006

Applicant thanks the Examiner for the courtesy extended in granting an interview to discuss specific issues raised in the Advisory Action mailed further to the Amendment after Final filed April 20, 2006. Pursuant to the discussion, Applicant further thanks the Examiner for agreeing to consider the instant Amendment after Final that incorporates the suggestions provided by the Examiner during the interview and takes into consideration the Examiner's further e-mail communications of September 14, 2006.

In the interview, Applicant and the Examiner discussed the two rejections set forth in the Final Office Action and maintained in the Advisory Action. First, the rejection of Claims 8-14 and 58-74 as indefinite is maintained. The Advisory Action states that although Applicant, in the Amendment after Final filed April 20, 2006, responsive to the Final Office

Action and further to the interview of April 20, 2006, amended the claims in an attempt to clarify that the transcription product is antisense to the target mRNA, the claims allegedly are still indefinite. Specifically, the Advisory Action alleges that the recitation "the coding sequences for each individual **transcription product** encodes an antisense nucleic acid that, **when expressed as RNA.....**" is vague and indefinite because it is the Examiner's understanding that transcription produces an RNA molecule and the antisense molecule therefore necessarily is in the form of RNA. Applicant proposed addressing this objection by amending the claims to remove the recitation "when expressed as RNA."

Next, Applicant and the Examiner discussed the rejection of Claims 8-14 as obvious. In the interest of advancing the application to allowance, Applicant proposed cancelling Claims 8-14. The Examiner agreed that the proposed amendments appear to address the two outstanding rejections but noted that an updated search would be performed as a matter of course.

In a subsequent telephone call dated September 14, 2006, Applicant inquired whether instead of cancelling Claims 8-14 responsive to the obviousness rejection, Applicant could cancel Claim 8 and amend Claims 9-14 to depend on Claim 58. The Examiner responded *via* e-mail that if the amendment does not change the scope of the claims already searched, then she did not foresee any problem entering the instant Amendment after Final. Applicant inquired if they could send the Examiner a proposed set of claims to see if they were allowable, and the Examiner responded that the submission of a formal Amendment after Final would expedite review.

Accordingly, Applicant submits herewith an Amendment after Final for consideration by the Examiner. Applicant again thanks the Examiner for agreeing to consider its entry. Applicant respectfully submits that, as discussed below, the instant Amendment after Final is compliant with the Examiner's suggestions as set forth during the interview. It is further submitted that the instant Amendment after Final, which is fully responsive to the Final Office Action of October 20, 2005, and to the Advisory Action mailed May 22, 2006, either places the application in condition for allowance, or, alternatively, reduces the number of issues for appeal.

**THE REJECTION OF CLAIMS 8-14 AND 58-74 UNDER 35 U.S.C. §112,
Second Paragraph**

Claims 8-14 and 58-74 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. The

Examiner states that Applicant's arguments and amendments filed April 20, 2006, have been considered but the nature of what is claimed remains vague and indefinite. Specifically, it is alleged that recitation of the language "the coding sequences for each individual **transcription product** encodes an antisense nucleic acid that, **when expressed as RNA.....**" is vague and indefinite because it is the Examiner's understanding that transcription produces an RNA molecule and the antisense molecule therefore necessarily is in the form of RNA.

It respectfully is submitted that this rejection is rendered moot with respect to Claim 8, which is cancelled herein. It further is noted that Claim 74 was cancelled previously in the Amendment after Final filed April 20, 2006. Therefore, the rejection is inapplicable to cancelled Claim 74.

With respect to the remaining rejected claims, it respectfully is submitted that the language cited by the Examiner does not refer to a transcription product *per se*, which, Applicant agrees, is RNA. Rather, the recited term is "**coding sequences** for each transcription product" (emphasis added). The *coding sequences* for a transcription product can encode an antisense nucleic acid that can be expressed by transcription to produce a transcription product, namely, RNA, or can be expressed as DNA (*e.g.*, by replication), or as a protein (*e.g.*, by transcription followed by translation). The claims however are amended herein to delete the phrase "when expressed as RNA" as discussed during the interview, in the interest of advancing the application to allowance.

THE REJECTION OF CLAIMS 8-14 UNDER 35 U.S.C. §103(a)

Claims 8-14 remain rejected under 35 U.S.C. §103(a) as being unpatentable over Wagner *et al.* U.S. Patent No. 6,355,415 in view of Gudkov *et al.* U.S. Patent No. 5,753,432, for reasons of record. Responsive to Applicant's arguments in the Amendment after Final filed April 20, 2006, the Advisory Action states that the arguments are not persuasive because Applicants traversal allegedly is based on the lack of a teaching or suggestion in the references, singly or in combination, of the use of computer-based conformational modeling for the identification of accessible cleavage sites and Wagner *et al.* allegedly is not limited to computer modeling-based identification. The Examiner recites a passage from Wagner *et al.* that states:

"[T]he invention is not limited to substrate cleavage sequences located in unpaired regions or loop structure, or to the number of ribonucleotide in these regions and structures. Cleavage sequences of any length may be located anywhere in a substrate

RNA so long as a ribozyme is capable of cleaving at or near the substrate cleavage site.” (col. 19, lines 15-20)

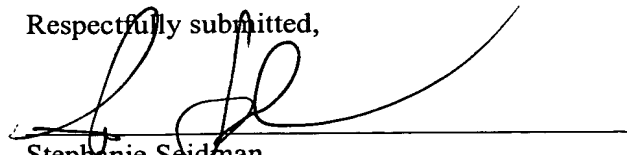
It is respectfully submitted that in the Amendment after Final filed April 20, 2006, Applicant's traversal was not premised solely on a lack of teaching in the cited references, singly or in combination, regarding the identification of ribozyme cleavage sites by methods other than computer-based modeling. Even assuming the above cited paragraph is indicative of a teaching by Wagner *et al.* that such cleavage sites can be identified by methods other than computer-based modeling (*i.e.*, that computer-based modeling methods only help to identify unpaired regions or loop structure in RNA), Wagner *et al.* does not teach or suggest any method of assigning function based on a family of oligonucleotide sequences that are complementary to sequences throughout a target of interest, regardless of whether they are capable of cleaving the target or not. It is this “shotgun” approach that makes the instant methods amenable to high-throughput screening. Wagner *et al.* teaches prior identification of a site on a substrate RNA that can be cleaved by a ribozyme, regardless of how the site is identified or its location on the substrate. Wagner *et al.* does not teach or suggest any method of assigning function using a family of oligonucleotides that are complementary throughout the target, regardless of their ability to cleave the target. Gudkov *et al.*, which does not teach or suggest any assignment of function to a known sequence, does not cure this deficiency.

In the interest of advancing the application to allowance, however, Applicant has cancelled Claim 8, thereby rendering this rejection moot. Dependent Claims 9-14 are amended to depend from base Claim 58, which is not rejected on obviousness grounds.

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In view of the above, reconsideration and allowance of the application are respectfully requested.

Respectfully submitted,



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